TO THE HONORABLE

ALBERT GALLATIN, Esq.

SECRETARY OF THE TREASURY

OF THE

United States.

SIR,

THE commissioners for surveying the coast of North Carolina, have the honor to report:

That on the twenty-eighth day of May last, they met at Shell Castle, district of Ocracock, and agreeably to their instructions, commenced the survey, by first ascertaining the latitude and longitude of that place. The latter was ascertained by a series of lunar observations, taken both on the east and west sides of the sun and a mean of the whole for the result, which gave the longitude 76° 5 W. the latitude is 35° 2 30 N. With those data, they proceeded to lay down the adjacent coasts of Ocracock and Portsmouth, the shoals in the vicinity of Shell Castle, and the bar. They were employed on that service till the twentieth of June, when the cutter, Governor Williams, capt. Alexander Henderson, arrived from New-Bern, and reported that the cutter was ready for sea.

On the twenty-second, the commissioners embarked and on the twenty-fourth put to sea, and proceeded to Cape Hatteras, on which is a light house, situated in longitude 75° 30 W. and latitude 35° 14 30 N.

Cape Hatteras shoals extend twelve miles in a south easterly direction, with ten and twelve fathoms on the extreme parts. The most dangerous shoal lies in latitude 35° 6 N. the middle of which is ten miles distant from the light house, and has barely two fathoms water: between

that and the Diamond shoal, which lies almost directly off the cape, there is a good passage for small vessels, in moderate weather or when the wind is off the land, but it would be always safest to go round the shoal in ten and twelve fathoms. The light house can be seen all round in that water, if the weather is clear.

The Gulph Stream lies twelve miles from the extreme part of the shoals, in a south east direction, and twenty-four miles from the land, the soundings were from twelve fathoms on the outer part of the shoal, to sixty fathoms close on the edge of the stream. The whole is faithfully laid down in their chart.

On the fourth of July, they sailed for cape Look-out and from thence to Beaufort, where they met the Wilmington cutter Diligence, capt. James Brown, which had for some time been under the direction of the other commissioner.

Cape Look-out lies in latitude 34° 34 N. and longitude 76° 37 W. and the cape woods where it is contemplated to build a light house, in latitude 34° 36 N. and longitude 76° 36 W. The shoals extend from the cape fifteen miles, in a south south east direction, and the broken ground as far as latitude 34° 20 N. In that latitude there are fourteen and fifteen fathoms water, and from thence to the Gulph Stream, the soundings are gradual, to ninety-five fathoms water, the tracks of both cutters are faithfully laid down in their chart, together with all the soundings from the outer part of the shoal to the edge of the Gulph Stream.

At Beaufort, the longitude was determined in the same manner as at Ocracock, and from which, Cape Look-out, the shoals and all the coast as far as Old Topsail Inlet, are laid down.

On the thirty-first day of July, the commissioners took their departure from Beaufort with both the cutters, and surveyed the coast from thence to Federal Point on

New Inlet, the entrance of Cape Fear. The latitudes and longitudes of all the inlets are carefully laid down in their chart, agreeably to the run of the Governor Williams from Beaufort Bar, together with all the soundings.

At Cape Fear, the commissioners proceeded as at the other two stations, and determined the longitude of the light house at Bald Head, on Smith's Island, to be 78° 12 W. and the latitude 33° 51 N. with those data they commenced the survey of the Frying-pan shoals. The extreme southern part of them lies in latitude 33° 35, and in that parallel of latitude the shoal runs twelve miles due east and west, with seven fathoms all along the southern edge. The commissioners while surveying that shoal, discovered a very fine channel or slew; which runs through about the middle of the shoal and ten miles from Cape Fear, with seven fathoms water on the north side, to four and five on the south, and more than a mile wide in the narrowest part, which when generally known, will be of great importance to the navigation of Cape Fear. All the soundings, bearings, &c. they have carefully laid down in their chart.

On the 22d of August, the cutter Governor Williams was dismasted in consequence of a violent gale of wind at north east, which drove every other vessel on shore. The Diligence Cutter was then at Wilmington and received no damage.

The Commissioners having finished the survey as far as Cape Fear and the Frying-pan shoals, they embarked on board the Diligence for Ocracock, where they safely arrived the 31st of August, and on the 2d of September experienced another gale which wrecked fourteen sail of vessels. The cutter Diligence did not receive much damage.

The commissioners being desirous to ascertain the fact, whether any part of Hatteras shoals, extended as far as latitude 34° 48 N. and longitude 76° W. as asserted in most of the popular books on navigation: Mr. Coles sailed

in the Diligence on the 7th of September, and cruised over that ground in several directions, and could not perceive any thing like a shoal, but on the contrary from the bar to latitude 34° 47, there is from fifteen to eighteen fathoms, and deepens gradually from the land to that latitude; the soundings are carefully laid down in their chart.

The weather being fine, the Diligence sailed again on the 24th of Septem. in order to take the soundings off Hatteras shoals to the northward, and to determine the real situation of the wimble shoals: and after performing that service, returned again on the twenty-eighth, and at six o'clock P. M. was safely moored under the lee of Shell Castle, the survey being completely finished. About midnight blew a violent gale or rather a hurricane, in which both the cutters were totally lost and every vessel in the port wrecked: Mr. Coles was on board of the Diligence when she sunk, consequently lost all his instruments, papers, and every article of clothing. The officers and crew as well as himself were as early as possible taken off the wreck, by the humane exertions of the inhabitants of Shell Castle: in that distressed situation, the officers and Mr. Coles, also as many of the crew as could possibly be accommodated, were comfortably lodged and carefully provided with every comfort by James Taylor, Esq. collector at Ocracock, to whose generous attentions Mr. Coles attributes the recovery of his health: there was on board the Diligence at the time she was lost, one hundred and thirty-seven dollars specie, together with other monies and vouchers to the amount of between sixty and seventy more, a part of the monies destined for contingent expences.

After the loss of the cutters, the commissioners prepared to leave the coast and embarked on the tenth of October with the officers and crews of the cutters for New-Bern.

The commissioners by their instructions are enjoined to report their opinion, on the practicability of building light houses on the extreme points of the shoals and if that

should not be thought practicable, whether lighted beacons could not be established there.

They are of opinion that it is impracticable to build light houses on the extreme point of the shoals with any prospect of their standing—first, because the shoals appear to them to be formed of materials which are put in motion by every gale. Secondly, they are assured as well from their own observation as from the best information they could procure from the inhabitants along the coast, that the several shoals are almost entirely a quicksand—but admitting that a tolerable foundation could be found, the Commissioners cannot conceive that any building situated fifteen or twenty miles in the ocean could possibly withstand the continual shock of a sea, impelled by the boisterous gale for three thousand miles.

The same reasons induce them to believe that floating beacons could not be maintaind on the extreme point of the shoals, except perhaps during the summer months.

The light house at Cape Hatteras exhibits a fine light when in order, and can be seen very plain in twelve fathoms water on the outer part of the shoals. When only ten feet above the level of the sea, but from on board a large vessel, it might be seen in twenty or twenty-five fathoms.

While the commissioners were engaged in surveying the shoals off Look-out, the reflection was frequently forced upon them of the many lives that might be saved, and the great utility and advantage it would be to navigation, could a light house be established on that cape, but it ought to be of the first magnitude, for the land is low and cannot be seen more than three leagues in the clearest weather from on board a small vessel—the commissioners have often seen vessels, and among them a very fine ship standing under full sail, directly for the center of the breakers and not any of them perceived their danger, until they were so near that it was with difficulty they were able to clear the weather part of the shoals, but had a good light house been there, those

vessels must have discovered it and thereby have known the danger of their situation in time to enable them to weather the shoals, even in stormy weather—the commissioners are fully of opinion that Cape Look-out shoals are more destructive to navigation, than either Hatteras or Cape Fear shoals.

As the light house at Cape Fear cannot be seen in the seven fathom slew, which runs through the Frying-pan Shoals, the commissioners would recommend the establishment of a couple of floating beacons, one at each end of the passage, for it often happens that vessels with a north east wind are caught too near the land to be able to weather away the outer part of the shoal; and to save their lives run the vessel on shore: but now they will avail themselves of the passage through the slew and when under the lee of the shoal might lay too with safety; there being drift enough for twelve hours, nothing is wanting to render it of general use but some mark or other being established, that would direct them to the entrance.

The commissioners decline giving directions for sailing into the ports of North Carolina as all the harbours are barred and those always subject to some alteration by every gale, particularly in the equinoctial storms; but the bars create only a part of the danger in sailing into those ports; it is the vast bed of shoals that lies within the bars, with their innumerable small channels which give to the tide so many different directions that even the pilots who live on the spot find it difficult to carry a vessel in without some accident.

The currents on the coast of North Carolina are governed mostly by the wind—during the summer months, the prevailing winds are south westerly, and the current then sets in the direction of the coast to the eastward, and when the southerly wind begins to cease blowing, it changes suddenly to the contrary direction, which is a sure precursor of a north east wind.

The tide flows on all the bars, and the shoals of Hatteras, Look-out and Cape Fear, from four to five feet, accor-

dingly as the winds prevail in the offing, and in easterly gales it runs several feet higher.

At Ocracock there is at present nearly eighteen feet on the bar at high water, and at low water neipe tides not more than two fathoms: but ordinarily thirteen feet—It is high water there, at full and change of the moon at four o'clock, at Cape Hatteras shoals, at three o'clock and forty-five minutes.

On the bar, at Old Topsail inlet, Beaufort, there is always thirteen feet at low water, and at spring tides nineteen and twenty feet, but the harbour is much incumbered with shoals, some parts of which are dry at low water.—It is high water in full and change of the moon at 5 o'clock on the bar, and the variation is one degree forty minutes easterly; and at Cape Look-out shoals it is high water at full and change at half past four o'clock, where the variation is one degree and thirty minutes.

New Inlet, Cape Fear, has only nine feet on the bar at low water and at spring tides there has been known fourteen feet. Cape Fear has fifteen feet water—at neipe tides and in what is termed good tides by the pilots, they can carry a vessel out drawing nineteen feet water. It is high water at the bar at seven o'clock, and about the Frying-pan shoals, at six hours and thirty minutes, the variation at Cape Fear is three degrees easterly.

The commisioners would do injustice to their own feelings, did they not embrace this opportunity to express their entire approbation of the conduct of the officers commanding the revenue cutters, and all the gentlemen officers, for their steady and zealous attention to the duties of their several stations, during the whole of the survey: and their polite and friendly attentions to accommodate and render agreeable their situation while on board the cutters, will always be remembered with gratitude.

The chart which the commissioners have now the honour to submit, has been effected with a vast deal of

labour and personal hazard; indeed, the many difficulties which have attended that service, cannot be readily conceived; but they feel themselves in some measure compensated, by having it in their power to present a chart of the coast of North Carolina, which they cannot but flatter themselves, will prove beneficial to the navigation of the United States, but more especially so, to those gentlemen, having command of vessels, who will be at the pains to avail themselves of all those means of ascertaining their latitude, which our great and beneficent Creator has been pleased to render truly within the reach of every one who will use the necessary means.

The Commissioners have the honour to be,

Very respectfully,

Your most obedient Servants,

THOMAS COLES,
JONATHAN PRICE.